UNITED STATES PATENT AND TRADEMARK OFFICE

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Nixon & Vanderhye
8th Floor
1100 North Glebe Road
Arlington, VA   22201-4714

EXAMINER
EL HADY, NABIL M

ART UNIT	PAPER NUMBER
2154	

DATE MAILED: 07/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _01 December 2000_.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-29_ is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) _1-29_ is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☒ All b)☐ Some * c)☐ None of:
    1.☒ Certified copies of the priority documents have been received.
    2.☐ Certified copies of the priority documents have been received in Application No. _____.
    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _8_.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1.   Claims 1-29 are pending in this application.

2.   Claim 6 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim 5. See MPEP § 608.01(n). Accordingly, claim 6 has not been further treated on the merits. The phrase "according to claim 5 when appended to claim 2", is objected to and in effect renders claim 5 multiple dependent claim. It is suggested to make claim 6 dependent on claim 5, and claim 5 to be multiple dependent on claims 1 and 2 by using " A system according to claims 1 or claim 2" in claim 5.

3.   Claim 10 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim 9. See MPEP § 608.01(n). Accordingly, claim 10 has not been further treated on the merits. The phrase "according to claim 9 when appended to claim 2", is objected to and in effect renders claim 9 multiple dependent claim. It is suggested to make claim 10 dependent on claim 9, and claim 9 to be multiple dependent on claims 1 and 2 by using " A system according to claims 1 or claim 2" in claim 9.

4.   Claim 15 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim 14. See MPEP § 608.01(n). Accordingly, claim 15 has not been further treated on the merits. The phrase "according to claim 14 when appended to claim 3 or claim 4", is objected to and in effect renders claim 14 multiple dependent claim. It is suggested to make claim 15 dependent on claim 14, and claim 14 to be multiple dependent on claims 1, 3, and 4 by using " A system according to claims 1 or claim 3 or claim 4" in claim 14.

5.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6.   Claims 1-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. The following phrases are not clearly understood and render the claim vague:

        a) "for execution on the same computer", claim 1, line 7, it is unclear if the same computer is the first or the second computer;

        b) "the or each said second program", claim 1, line 10; claim 7, line 2; claim 11, line 2, does it mean "on which each of the at least one second program" ?;

        c) "each said second program", claim 1, lines 13-14, does it mean "each of said at least one second program" ?;

        d) " said second computer", claim 21, lines 9-10, line 11, and lines 12-13, does it mean "said at least one second computer"?;

        d) " said second computer", claim 23, line 4, line 6, does it mean "said at least one second computer"?;

        e) "showing the or each said second computer", claim 23, line 10, does it mean "showing each of said at least one second computer". In addition, it is unclear what does it mean for a display to show a computer.

        f) " A first computer adapted to operate in the system of any preceding claim", it is unclear what the applicant is distinctly claiming which he/ she regards as invention, the first computer is already claimed in all the preceding claims, and in effect it is adapted to operate as it is claimed. Accordingly, claim 28 has not been further treated on the merits.

g) "causing the second computer to remove and terminate themselves", claim 12, lines 2-3, it is uncl;ear if therselves refer to the second programs or the second computers.

B. The following terms lack antecedent basis:

a) "the or each said mobile program", claim 23, line 10;

b) "said computers", claim 3, line 2; claim 4, line 2;

c) "said second computer", claim 5, line 2; claim 6, lines 2-3; claim 13, line 5; claim 14, line 4; claim 16, line 2; claim 17, line 2; claim 18, line 2; claim 19, line 2; claim 20, line 2; claim 21, lines 9-10, line 11, and lines 12-13 ; claim 23, line 4, line 6

d) "said second programs", claim 8, line 2;

e) "said second program", claim 9, line 1;

f) "said computer", claim 9, line 2;

g) "the second programs", claim 12, line 1;

h) "plural said second computers", claim 13, line 2;

i) "said team"; claim 13, line 4; claim 14, lines 6-7;

j) "said teams", claim 13, line 5;

k) "said second computers", claim 14, line 2; claim 24, line 2; claim 25, line 2; claim 26, line 2;

l) "the or each said second computer", claim 27, line 2.

m) "said monitoring code", claim 16, line 1; claim 17, line 1; claim 18, line 1; claim 19, line 1; and claim 20, line 1.

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8.   Claims 1-4, 11, 12, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitteed prior Art, hereafter "AAPA" in view of Aridor et al. (Agent Design Patterns: Elements of Agent Application Design, Proceedings of the 2nd International Conference on Autonomous Agents, 9-13 May 1998), hereafter "Aridor".

9.   As to claim 1, AAPA discloses the invention substantially as claimed including a remote computing system comprising: a first computer; and at least one second computer coupled thereto via a communications link; said first computer being programmed to transmit, to said second computer via said link, data defining a computing team for performing a computing task, and said second computer being programmed to receive said data (page 1, lines 5-30);

10.   AAPA does not explicitly disclose executing, in parallel, a first and at least one second program. Aridor, on the other hand, discloses executing, in parallel, a first and a at least one second program in the second computer, and in which each of said second program comprises code for performing at least a part of said task, and for communicating with said first program; and said first program is a co-ordinating program comprising code for communicating with said first computer, and for communicating with and co-ordinating each said second program (sec. 3.2 Task Patterns, Plan pattern, and Master-Slave Pattern). It would have been obvious to one skilled in the art at the time of the invention to combine the teachings of AAPA and Aridor

because Aridor's new patterns for computing teams (mobile agents) would simply make the

applications more flexible, understandable, and reusable (see, Aridor's abstract).

11.   As to claims 2-4, Aridor discloses said first program comprises code for transmitting

said first program to another said computer, in response to a predetermined criterion (3.1,

Travelling Patterns), and is arranged to determine one of a plurality of said computers to move

to (3.1, Travelling Patterns), and to store a sequence defining an order of preference of said

computers to move to (3.1, Travelling Patterns).

12.   As to claims 11 and 12, AAPA and Aridor discloses the first program is arranged to be

capable of removing each of said at least one second program from the second computer and

to terminate execution thereof (p 1, line 6 in AAPA for the first program and Task Patters an

Interaction Patters in Aridor for each of the second program), and the second programs each

comprise code for causing the second computer to remove and terminate themselves, and are

arranged to do so in the absence of a signal from the first program under predetermined

conditions (p 1, line 6 in AAPA for the first program and Task Patters an Interaction Patters in

Aridor for each of the second program).

13.   As to claim 29, the claim is rejected for the same reasons a s claim 1 above. In addition,

Aridor discloses a method of remote computing comprising supplying a plurality of parallel

processing task programs from a first computer to at least one second computer (sec. 3.2, Task

patterns); supplying a co-ordinating program from said first computer to said second computer;

and co-ordinating operation of the task programs through the coordinating program (sec. 3.3,

Interaction Patterns).

14.   Claims 13 and 21-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Applicant Admitteed prior Art, hereafter "AAPA" in view of Aridor et al. (Agent Design Patterns:

Elements of Agent Application Design, Proceedings of the 2nd International Conference on

Autonomous Agents, 9-13 May 1998), hereafter "Aridor", and further in view of Berghoff et al.

(Agent-based configuration management of distributed applications, IEEE 1996), hereafter

"Berghoff".

15.   Berghoff et al. is cited by the applicant in IDS paper No. 6 filed 6/1/2001.

16.   As to claim 13, the claim is rejected for the same reasons as claims 1 and 21 above. In

addition, Berghoff discloses the first computer is programmed to access plural said second

computers; to determine, for each, whether it will support said computing team and, where a

second computer will not support a said team, to transmit thereto, and cause to execute

thereon, a support program to adapt said second computer to support said teams. Berghoff

discloses sending a stationary agent as a supporting environment to the mobile program

executed on the second computer (p 55, left column, 2nd paragraph; and right column 3rd

paragraph).

17.   As to claim 21, the claim is rejected for the same reasons as claim 1 above. In addition,

Aridor discloses mobile program data defining a mobile program for performing a computing

task for execution on said second computer and comprising code for performing at least a part

of said task (Facilitator, Interaction Pattern, Fig. 3), and for communicating with said first

computer (Messenger, Interaction Pattern, Fig. 3). Aridor does not explicitly disclose   first

computer transmiting data defining a mobile program support environment to enable said

second computer to receive said mobile program data and to execute said mobile program.

Berghoff, however, discloses sending a stationary agent as a supporting environment to the

mobile program executed on the second computer to enable said second computer to receive

said mobile program data and to execute said mobile program (p 55, left column, 2nd

paragraph; and right column 3rd paragraph). It would have been obvious to one skilled in the art

at the time of the invention to combine the teachings of AAPA, Aridor and Berghoff because

Berghoff's mobile program environment support would enable mobile programs to have access

to system information (see, Berghoff, p 55, left column, 2nd paragraph).

18.   As to claim 22, AAPA and Aridor disclose said first computer is arranged to be capable

of causing said second computer to remove said mobile program support environment (p 1, line

6 in AAPA for the first program and Task Patters an Interaction Patters in Aridor for each of the

second program).

19.   As to claim 23, the claim is rejected for the same reasons a s claims 1 and 21 above. In

addition, Berghoff discloses the first computer is arranged to generate a graphical display

showing each of said second computer, and each said mobile program resident thereon

(manager Interface, Fig. 2).

20.   As to claims 24-27, Berghoff's graphical display does not explicitly indicates the

geographical positions of said second computers, the computing capabilities of said second

computers, the delay in communicating with said second computers from said first. Official

notice is taken that both the concept and advantages of providing such indicators in a

management or monitoring console is well known and expected in the art or network monitoring. It would have been obvious to one skilled in the art at the time of the invention to collect these indicators in Berghoff's graphical display in order to enhance the monitoring and the management of the system.

21.   Claims 5, 7, 8, 14, and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted prior Art, hereafter "AAPA" in view of Aridor et al. (Agent Design Patterns: Elements of Agent Application Design, Proceedings of the 2nd International Conference on Autonomous Agents, 9-13 May 1998), hereafter "Aridor", and further in view of Kozuka (US 6,289,394).

22.   As to claims 5, 7, and 8, Aridor's Task Patterns for agents would read on applicant disclosed limitations of monitoring code for monitoring the status of said second computer, and control each of said at least one second program in dependence upon said monitoring (Master-Slave; Plan, Fig. 2; and Facilitator Pattern, p 110, left column, 3rd paragraph), and control the number of said second programs in dependence upon said monitoring (creating other agents as slaves). Moreover, Kozuka, discloses agent monitoring and controlling other agents (abstract).). It would have been obvious to one skilled in the art at the time of the invention to combine the teachings of AAPA, Aridor, and Kozuka because Kozuka's monitoring and controlling capability of the mobile program would simply make the applications more flexible, understandable, and reusable (see, Aridor's abstract).

23.   As to claim 14, the claim is rejected for the same reasons as claims 1, 5, 7, and 8 above. Discloses the first computer is programmed to transmit, to a plurality of said second computers

via said link, data defining a monitoring program comprising monitoring code for monitoring a

respective said second computer, and code for communicating with said first computer (Task

Patterns, Master-Slave; Plan, Fig. 2; and Facilitator Pattern, p 110, left column, 3rd paragraph in

Aridor); and said first computer is arranged to receive status data from the or each said

monitoring program and to control the operation of said the or each said team in dependence

thereon (Kozuka's abstract).

24.   As to claims 16-20, the claims are rejected for the same reasons as claims 1, 5, 7, 8,

and 14 above. In addition, it would have been obvious to one skilled in the art at the time of the

invention to tailor a monitoring code to specifically monitor the memory, the utilization of the

processor, the storage capacity, use of an input device, or a battery of said second computer.

25.   Claim 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant

Admitted prior Art, hereafter "AAPA" in view of Aridor et al. (Agent Design Patterns: Elements of

Agent Application Design, Proceedings of the 2nd International Conference on Autonomous

Agents, 9-13 May 1998), hereafter "Aridor", and further in view of Objectspace Inc, Objectspace

Voyager core Package Technical Overview, 12/1997), hereafter "Objectspace".

26.   As to claim 9, Aridor discloses said second program comprises code for transmitting said

first program to another said computer (Messenger Pattern, p 110, left column, 2nd paragraph).

Aridor does not explicitly disclose a move instruction from said first program. Objectspace,

however, discloses a move instruction (p 10).

27.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

> Frew et al. (US 6,009,456); White et al. (US 5,603,031); Lange et al. (GB 2325824);
>
> Franklin et al. (Is it an Agent, or just a Program, proceedings of 3rd Int. Workshop on
>
> Agent Theories, Architectures, and Languages, 1996); and Lange et al. (Present and
>
> Future Trends of Mobile Agent Technology, 2nd Int. Workshop on Mobile Agents,
>
> 9/1998).

28.   Any inquiry concerning this communication or earlier communications from the examiner

should be directed to Nabil M El-Hady whose telephone number is (703) 308-7990. The

examiner can normally be reached on 9:00 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, John Follansbee can be reached on (703) 305-8498. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private

PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

June 27, 2004

Nabil El-Hady, Ph.D, M.B.A.
Primary Patent Examiner
Art Unit 2154